

Bridging the gaps: uncovering the information needs of female students in two nigerian specialised universities

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Abstract

The study examined the information needs of female students at the Federal University of Petroleum Resources, Effurun (FUPRE), and the Nigerian Maritime University, Okerenkoko (NMU) both in Delta State, Nigeria. The study adopted a descriptive survey research design. The total population of female students from both institutions is 3120. Nwanna's (1981) sampling approach was used to select 10% of the total population which amounts to 312 female students used for the study. The instrument used for eliciting data from the respondents was a structured questionnaire. Data collected using the questionnaire was analyzed using the descriptive statistics method. The findings revealed that academics (100%), accommodation (100%), and finance (100%), among others were classified as the pressing information needs of the female students in FUPRE and NMU examined. The findings also revealed that electronic resources (100%), internet sources (100%), and textbooks (99%), among others, were the top-ranking preferred information sources indicated by the female students examined. The findings showed that the female students use information for meeting their academic (100%) and accommodation aspirations (100%), getting finance sources (98%), and better hygiene (97%) among others. The findings revealed that epileptic power supply (100%), high cost of data (100%), inadequate bandwidth/ poor internet (98%), inadequate finance (95%), and inadequate time (82%), among others, were the pressing challenges affecting the access and use of information by the female students in FUPRE and NMU. It was recommended that alternative power sources and swift internet access should be made available to enhance the information seeking of female students in universities.

Keywords: Information Needs; Female Students, Information Sources, Information Use

Introduction

Information is often seen as a vital instrument required for the survival of humans, as they are often required for decision-making, maintaining health, and advancing in several domains of life. In agreement with the aforementioned, Sheldon (2024) defined information as processed data that enables individuals to make sense of the world around them. As projected in the United Nations sustainable development goals, access to information is a right of citizens providing justice for all as effective institutions are built at all levels (United Nations Educational, Scientific and Cultural Organization, 2023). Scholars in the literature have often argued that there are gender differences in the information needs and seeking behaviour of university students (Halder et al, 2010; Martinovic et al., 2023). This study is focused on the information needs of female students to understand their peculiarities and diversities in their information seeking processes. Female students within the university context engage in information seeking activities in response to information needs that require attention be it for academics, entertainment, and fostering relationships.

Female students have diverse information needs across different contexts. In the information behaviour literature, information needs are often defined as the recognition of knowledge gap to fulfill a specific objective which prompts the seeker to search for information (Rather & Ganaie, 2018). In another view, information needs can be seen as the essential requirement for fast, relevant, accurate, and accessible information that individuals can meet by seeking information via various sources (Bara et al., 2023). Just like their male counterparts, female students require information to meet their various information needs on hygiene, academics, health, entertainment, relationships, stress management, and other daily hassles that come their way. On the other hand, Mersha et al. (2013) confirmed that female students had less access to information than their male counterparts. Furthermore, Rafiq et al. (2021) confirmed that it is crucial to remember that a woman's information-seeking behavior can differ depending on her interests, motivation, cultural background, and academic setting. Librarians can provide specialized services that are specifically tailored to fulfill the information needs of their users, leading to increased patron satisfaction, by having a thorough understanding of the information demands of different types of information seekers (Singh, 2023).

Getting accommodation within the campus forms another major information need of the female students, as they would like to get information on the resident vacancy, the amount to be paid, and the period the porter would be open for payment to be made (Rafiq et al., 2021). In agreement with the earlier viewpoint, Mtani and Nuhu (2019) disclosed in their research that female students are generally affected due to the inadequacy of on-campus accommodation reserved for them as compared to their male counterparts in the university which prompts them to be active information seekers on the subject.

The researcher observed that most of the studies on information needs and seeking behaviour are focused on students generally; only a few studies are concentrated on the female gender to assess their peculiarities in terms of their information needs, preferred information sources, information use, and their challenges in terms of accessing and using information. Also, Delta State, Nigeria which is the geographical location of the study has been grossly understudied in terms of the information needs of female students at the university level; this lacuna in knowledge prompted

the need for the present study on the information needs of female students in a Nigerian specialized university.

Research Objectives

The following objectives were raised reflecting the key variables of the study to give the study a focus, and they include to:

1. find out the information needs of female students in the two specialized universities in Delta State.
2. examine the preferred sources of information of the female students.
3. determine the uses the female students put the information they get.
4. Identify the challenges affecting the female students' access to and use of information for meeting their various information needs.

Literature Review

Under the literature review, the theoretical framework and empirical studies relating to the variables of the study were discussed.

Theoretical Framework

The study's theoretical framework was hinged on Ellis' Behavioural Model of Information Seeking propounded by Ellis (1989) and was further expanded by Ellis and Haugan (1997). This model is often classified as a general model of information-seeking as it can be applied to understand the information-seeking strategies of different categories of individuals and has been widely used in the literature for understanding the information-seeking strategies of engineers, social scientists, medical professionals, students to mention only but a few (Meho & Tibbo, 2003; Savolainen, 2016; Ijiekhuamhen & Aiyebelehin, 2018). The theory would be adopted in this study to understand the information needs of female students in the university setting. The Ellis information seeking model is comprised of eight major characteristics exhibited by information seekers and they include starting, chaining, browsing, differentiating, monitoring, extracting, verifying, and ending (Ellis & Haugan, 1997; Ijiekhuamhen & Aiyebelehin, 2018).

The starting point is the first phase deployed by a user as they begin to seek information from various sources. Chaining entails following and connecting new leads in an initial source. Browsing is all about scanning the content of sources identified for subject affinity. Differentiating entails filtering and assessing sources to ascertain their usefulness. Monitoring encompasses keeping abreast of novel areas in a given discipline. Extracting entails taking points from a given source of interest to the information seeker. Verifying entails checking the completeness, accuracy, and validity of the information. Lastly, ending is the process of closing all activities (Ellis, 1989; Ellis & Haugan, 1997; Ijiekhuamhen & Aiyebelehin, 2018). This model was applied in this study because it explains the processes and phases information seekers go through from finding out that there is a gap in their knowledge to filling the gap and ending the search process.

Empirical Review

The study's empirical review was done in line with the study objectives.

The Information Needs of Female Students in two Specialised Universities

In a study, Rafiq et al (2021) examined the daily life information-seeking patterns of female students in resident hostels in Pakistan. A survey research method was employed using a population of 3633 female students in the resident hostels of Pakistani universities. 363 were selected from the total population using the sampling calculator. Data were elicited using a questionnaire and analyzed using the Statistics Package for Social Sciences. The findings revealed that the information needs of the female students are majorly focused on academics, safety, self-help, cultural-related information, leisure/ social activities, personal development, and entertainment. Jalali et al (2020) examined the fitness information seeking strategies of female students in Iranian universities. Purposive sampling was used to select 16 female students for the study. Semi-structured interviews were used to elicit data which were analyzed using the content analysis method. The findings showed that physical health, appealing appearance, social acceptability, confidence, and family members/ friends were considered the major information needs of Iranian female students.

Adeshina (2021) examined the ways information sources, needs and gender influence the use of information by undergraduate students in the sciences. 500 undergraduates formed the population of the research; data were collected using questionnaires and were analyzed using the T-Test and Pearson Product Moment Coefficient. The findings revealed that information needs influence the use of information and the needs of the females are majorly related to academic information, finance, and entertainment. Ansi and Nwalo (2010) assessed adolescent girls in school information needs and resources on reproductive health in Lagos State public schools. The population used was 1800 female students from the 18 schools in the six local educational districts in Lagos State, Nigeria. The findings revealed that keeping healthy relationships with male folks, strategies for abstaining from AIDS/ HIV, avoiding premarital sex, and signs of diseases transmitted sexually; among others were the key information needs of the female students. The study by Adekunle (2014) revealed that the information requirements of the students at Ondo State University of Science and Technology, Okitipupa are majorly academic-related as they need information for coursework and assignments.

The preferred sources of information of the female students

In a research, Azad (2019) explored the preferences and reading habits of collegiate female students who reside in Jalandhar region. 60 female students were randomly selected and a questionnaire was used to elicit data from them which were analysed using the descriptive statistics method. The findings revealed that the preferred information sources by the female students were mostly, textbooks, followed by magazines, reference books, newspapers, and non-fiction/ fiction books, with journals as their least preferred information source. Abdul et al (2020) examined the kinds of information sources used and their impacts on the usage of contraceptives by female undergraduate students at the University of Ilorin, Kwara State, Nigeria. The population comprises 150 female students who were selected using multistage random sampling; a questionnaire was used for data collection which was analyzed using Fisher's exact test, trend test using chi-square and t-test. The findings revealed that the teachers were the major source of information for female students, followed by their peers, friends, hospitals, and parents, among

others. Aghauche and Ekwelundu (2015) researched to investigate the information needs of girls. The study found that the girl-child primarily relies on family and friends, libraries, the internet, school curricula, teachers, and mass media as their preferred sources of information. These sources play a critical role in fulfilling the information requirements of girls, as identified in the study. Also, Rafiq et al (2021) assessed Pakistani female students' everyday life information seeking behavioural patterns. The results showed that the preferred information sources of the female students include mobile phones, the internet particularly online search engines, friends, seniors, classmates, family members/relatives, social networking sites, and teachers were also recognized as reliable sources. Bindhu and Balasubramani (2019) explored the information seeking behaviour of library users who are female in South- Tamil Nadu university libraries. The findings revealed that the female students visited the library to consult electronic information resources as their preferred information source.

The Uses of Information by the Female Students

The study conducted by Ibegbulam et al. (2018) examined how adolescent females in secondary schools in Enugu, Nigeria, utilize the Internet to acquire information about reproductive health. Adolescent female students used the Internet to research a variety of subjects, according to the study's findings. Considering the Internet's high availability of information and privacy, participants indicated that they preferred it. An earlier study by Weiser (2004) revealed that male students deploy internet information resources for entertainment and leisure while females utilize internet information resources to meet their communication and educational needs. David-West and Akameze (2022) assessed the gender differences in the deployment of Information Communication Technologies among students in information and library science. The descriptive survey design was adopted with a population of 222 undergraduate students. A questionnaire was used for the data collection, a mean was used to analyze the research questions, z-test was used for the hypothesis at a 0.05 significance level. The female students use the information they get basically for academic purposes. Ijiekhuamhen and Okoh (2014) investigated undergraduate students' information-seeking practices in the setting of a specialized university in Nigeria. The results show that the students examined use the information they get to improve their academic performance, support their personal growth, read ahead of time in class, uphold health ethics, complete assignments, and coursework, foster better relationships, and stay up to date on inventions and current events. Bassi and Camble (2011) explored the gender differences in the deployment of electronic resources in the university libraries of Adamawa State, Nigeria. The population of the study comprises 5,269 library patrons registered at the Federal University of Technology, Yola, Adamawa State University, Mubi, and the American University of Africa. Nwana (1981) sampling technique was used to select 5% of the entire population used for the research. A questionnaire was used to elicit data which were analysed using descriptive statistics. The findings revealed that female students used electronic resources for assignments and other leisure purposes.

The challenges affecting female students' access to and use of information

In assessing the challenges, Buba et al (2018) examined the gender disparities in electronic resource utilization in the university libraries in Jigawa State. The study used an analytical survey research and the population is 1905 undergraduate registered. Data were elicited using questionnaires, which were analyzed using inferential and descriptive statistics methods. The findings revealed that the challenges facing female students' use of electronic resources are poor

internet connectivity and erratic power supply. Bankole and Onasote (2016) examined female university students' awareness of information sources on contraception. The study used nine colleges at the Federal University of Agriculture, Abeokuta. A total of 800 questionnaires were distributed to the respondents and analyzed using the descriptive statistics method. The challenges facing the students' use of information are mainly associated with difficulties in accessing reliable information, fear of embarrassment, and inadequate time. Umar and Bakere (2018) explored the drawbacks to women's engagement in information society from the Nigerian perspective. The findings identified inadequate finance, high cost of data, high cost of digital infrastructural facilities, lack of skills, and other socio-economic and cultural problems as the drawbacks facing women's active participation in the information society. Jalali et al. (2020) study revealed that female students face societal pressures regarding health and appearance which causes distraction to their academics and militates against their information seeking patterns. Rafiq et al (2021) study identified cultural differences, hesitations that come naturally, separations from dear and near ones, difficulty in adjusting to new environments, language barriers, complexities associated with identifying authentic information sources, lack of internet access, among others were classified as the barriers to information access and use among the female students in the university resident in Pakistan.

Research Gaps

From the literature review, there is a lacuna in knowledge of the information needs of female students in Nigeria. The majority of the studies reviewed reported the situation of other nations like Pakistan, South Tamil Nadu, Jalandhar region, and Iran. The few studies that reported the Nigerian situation were not done in Delta State and are not recent. On the use of information by female students, there is a paucity of studies in that area. This knowledge gap necessitated the need for the present study aimed at uncovering the information needs of female students in two specialized universities in Delta State, Nigeria.

Research Method

The study adopted a descriptive survey research design. Aggarwal and Ranganathan (2019) asserted that the descriptive survey is often suitable as it allows researchers to study and gather facts about one or several variables and report them in a statistical form. The population comprises female students at the Federal University of Petroleum Resources, Effurun (FUPRE), and the Nigerian Maritime University, Okerenkoko (NMU) both in Delta State, Nigeria. From the data gathered from the student affairs department from both institutions, FUPRE has a total of 2457 female students and NMU has a total of 663 female students, making a total of 3,120 female students from the two specialized universities used in the research. Nwanna's (1981) sampling approach was used to derive the sample size. As stipulated by Nwana when the population is a few hundred 40% should be used, for many hundreds use 20%, for a few thousand use 10% and for many thousands use 5%. Since the population of 3,120 is a few thousand, 10% of the total population ($10/100 \times 3120/1 = 312$) was used making a total of 312 female students used as the sample size. The instrument used for eliciting data from the respondents was a structured questionnaire distributed with the aid of two research assistants who were duly briefed on how to approach respondents and follow up to ensure a reasonable response rate is achieved. Data collected using the questionnaire was analyzed using the descriptive statistics method.

Research Findings

Regarding the questionnaire response rate, 312 copies of the questionnaire were distributed to the respondents and 308 copies were retrieved. This resulted in a 99% response rate used for the study.

Results

Research Question 1: What are the information needs of female students in the two specialized universities in Delta State?

Table 1: Information Needs of the female students

Information Needs of the Female Students	Frequency	Percentage
Academics related information	308	100%
Entertainment and leisure information	256	83%
Health and Hygiene information	297	96%
Information on keeping healthy relationships	108	35%
Life decision information	204	66%
Self-help information	278	90%
Examination/ test preparation information	302	98%
Information on Trends in my field	94	31%
Personal development information	258	84%
Information on networking and meeting new people	114	37%
Safety-related information	304	99%
Scholarships opportunity information	284	92%
Accommodation information	308	100%
Information on finance sources	308	100%

From **Table 1**, all the female students 308(100%) expressed a need for academic, accommodation and finance related information, this is followed by safety information as indicated by 304(99%) of the respondents, examination/ test preparation information indicated by 302(98%) of the respondents, health/ hygiene information indicated by 297(96%) of the respondents, scholarship opportunity information indicated by 284(92%) of the respondents, information on self-help indicated by 278(90%) of the respondents, information on personal development indicated by 258(84%) of the respondents, information on entertainment and leisure indicated by 256(83%) of the respondents, information necessary for taking life decision

indicated by 204(66%) of the respondents, information focused on networking and meeting new people indicated by 114(37%) of the respondents, information necessary of keeping healthy relationships indicated by 108(35%), and 94(31%) of the respondents indicated information on trends in their fields.

Research Question 2: What are the preferred sources of information for female students?

Table 2: Preferred sources of information of the female students

Preferred Sources of Information by the Female Students	Frequency	Percentage
I consult textbooks to meet my information needs.	306	99%
I consult reference materials to meet my information needs.	214	69%
I reach out to family members when I have a knowledge gap.	186	60%
I use journals to meet my academic information needs.	86	28%
I use electronic resources for my information needs.	308	100%
I depend on my lecturers for my information needs.	246	80%
Friends provide valuable information that meets my information needs.	284	92%
I depend on academic software for my information needs.	122	40%
I use social media for gathering information on entertainment.	287	93%
I use newspapers for information on current happenings.	24	8%
I use internet sources to meet my information needs.	308	100%
I depend on physicians for my health information needs.	94	31%
I depend on classroom discussions to gather information that meets my needs.	56	18%
I visit the library to meet my information needs.	288	94%
I depend on mass media (Television and Radio Programmes) for my information needs.	28	9%

Table 2 showed that all the female students 308(100%) indicated electronic resources and internet sources as their preferred information sources, this is followed by textbooks as preferred information source was indicated by 306(99%) of the respondents, library as preferred source was indicated by 288(94%) of the respondents, social media as preferred source was indicated by 287(93%) of the respondents, among others.

Research Question 3: What are the uses the female students put the information they get?

Table 3: Information Use by the Female Students

Information Use by the Female Students	Frequency	Percentage
I use information to undertake high-quality research.	284	92%
I use information to get entertained during my leisure time.	254	82%
I use information to get suitable accommodation.	308	100%
I use information to meet my academic aspirations.	308	100%
I use information for personal development.	272	88%
I use information to foster healthy relationships with my peers.	202	66%
I use information to make better life decisions.	98	32%
I use information to improve my hygiene and health decisions.	298	97%
I use information to get abreast of the latest happening/news.	214	70%
I use information to understand the trends in my field.	106	34%
I use information to gather scholarship opportunities and apply for them	292	95%
I use information to get sources of finance to meet my needs.	302	98%

As indicated in **Table 3**, all the respondents 308(100%) indicated they use information for meeting their accommodation and academic aspirations, 302(98%) of the respondents indicated they use information for getting finance sources, 298(97%) of the respondents indicated they use information for better hygiene and health decisions, and 292(95%) of the respondents indicated they use information for gathering scholarship opportunities and applying for them, among others.

Research Question 4: What are the challenges affecting female students' access to and use of information for meeting their various information needs?

Table 5: Challenges Affecting the Female Students' Access to and Use of Information

Challenges Affecting the Access to and Use of Information	Frequency	Percentage
Epileptic power supply affects my access to and use of information.	308	100%
Inadequate Bandwidth/ Poor internet access affects my access and use of information.	302	98%
Poor search strategies affect my access to and use of information.	248	81%
Inadequate time affects my access to and use of information.	252	82%
Inadequate finance affects my access to and use of information.	292	95%
The high cost of data affects my access to and use of information.	308	100%
High-cost digital infrastructural facilities affect my access to and use of information.	224	73%
Lack of skills affects my access to and use of information.	208	68%
Cultural problems affect my access to and use of information.	202	66%
Societal pressures affect my access to and use of information.	142	46%
Difficulties in adjusting to new environments affect my access to and use of information.	94	31%
Complexities associated with identifying authentic information sources affect my access to and use of information.	62	20%
Timidity to share concerns and ask questions affects my access and use of information.	144	47%
Inadequate relevant materials in the library affect my access to and use of information	102	33%

Table 5 showed that all the female students 308(100%) indicated epileptic power supply and high cost of data as a challenge to their access and use of information, 302(98%) of the respondents indicated inadequate bandwidth/ poor internet as their challenge, 292(95%) of the respondents indicated inadequate finance as their challenge, 252(82%) indicated inadequate time as their challenge, 248(81%) indicated poor search strategy as their challenge, 224(73%)

indicated the high cost digital infrastructural facilities as their challenge, 202(66%) of the respondents indicated cultural problems as their challenge, 144(47%) of the respondents indicated timidity associated with sharing concerns and asking questions as their challenge, and 102(33%) of the respondents indicated inadequate relevant materials in their library as a challenge, among others.

Discussion of the Findings

The Information Needs of Female Students in the two Specialised Universities

The findings revealed that information on academics, accommodation, finance, safety, examination/ test preparation, health/ hygiene, scholarship opportunities, and self-help information among others were classified as the pressing information needs of the female students in FUPRE and NMU examined. This finding agrees with the study of Rafiq et al (2021) which indicated that the information needs of female students in resident hostels in Pakistan universities are academic-related information. This finding also agrees with the study of Adeshina (2021) which indicated that female students in the social sciences have information needs related to academic information, finance, and entertainment. In alignment also, the study of Adekunle (2014) revealed that the information needs of the students at Ondo State University of Science and Technology, Okitipupa are majorly academic-related for assignments and other course work. Conversely, the findings disagreed with the results of Ansi and Nwalo (2012) which indicate that keeping healthy relationships with male folks, strategies for abstaining from AIDS/ HIV, avoiding premarital sex, and signs of diseases transmitted sexually.

The preferred sources of information by the female students in the two Specialised Universities

The findings revealed that electronic resources, internet sources, textbooks, libraries, social media, friends, lecturers, reference materials, family members, academic software, and physicians, among others, were the top-ranking preferred information sources indicated by the female students in the two specialized universities examined. This finding aligns with the study of Rafiq et al (2021) which indicated that the Internet was among the preferred information sources by the female students in the resident hostels in Pakistan universities. The findings disagree with the result of Azad (2019) which indicates that the preferred information source by the female collegiate students who reside in the Jalandhar region was mainly textbooks, magazines, and reference books. The finding also disagreed with the study of Aghauche and Ekwelundu (2015) which indicated that the girl-child primarily relies on family, friends, and libraries for their information needs.

The Uses of Information by Female Students in the Two Specialised Universities

The findings showed that the female students use information for meeting their academic and accommodation aspirations, getting finance sources, better hygiene and health decisions, gathering scholarship opportunities and applying for them, engage in high-quality research and self-development, among others. However, this finding agrees with the study of David-West and Akameze (2022) which revealed that female students use information communication technologies for academic purposes. The findings also agree with the study by Ijiekhuamhen and Okoh (2014) which indicates that the student of the Federal University of Petroleum Resources, Effurun use information to meet their academic needs and enhance their performance. The

findings concur with the study of Bassi and Camble (2011) which revealed that the female students in the three university libraries examined use information for carrying out their assignment which is an academic activity. The majority of the studies indicated meeting the academic needs of the study as the major reason for using information by the female students, while the present study also indicated meeting accommodation needs as another pressing use of information by the female students which is a novel contribution to knowledge.

The challenges affecting female students' access to and use of information

From the findings, epileptic power supply, high cost of data, inadequate bandwidth/ poor internet, inadequate finance, inadequate time, poor search strategy, high cost digital infrastructural facilities, cultural problems, and timidity associated with sharing concerns and asking questions, among other were classified as the major challenges affecting the female students access and use of information. This finding agrees with the study of Buba et al (2018) which revealed that epileptic power supply and poor internet connectivity are the factors affecting the access and use of electronic resources by female students in the university libraries in Jigawa State, Nigeria. However, the finding disagrees with the study by Jalali et al (2020) which revealed that societal pressure is the major factor affecting the access and use of information by female students. Also, the finding did not agree with the study by Rafiq et al (2021) which identified cultural differences, hesitations that come naturally, separations from dear and near ones, difficulty in adjusting to new environments, language barriers, complexities associated with identifying authentic information sources, lack of internet access, among others are the barriers to information access and use among the female students in the university resident in Pakistan. Since female students prefer to use electronic information resources and internet sources, the epileptic power supply, poor internet, and low bandwidth experienced in their universities could militate against their access and use of information for meeting their diverse information needs.

Conclusion

The study has identified the information needs, preferred information source, information use, and the challenges the female students face in their quest to meet their information needs in two specialized universities in Delta State, Nigeria. The pressing information needs of female students as indicated in the findings are mainly academics, accommodation, finance, safety, examination/ test preparation, health/ hygiene, and scholarship opportunities, among others. To meet these information needs, the female students consult several sources and their preferred sources are electronic resources, internet sources, textbooks, library, social media, friends, lecturers, reference materials, family members, academic software, and physicians, among others. The information received from the various sources is put into use by the female students for meeting their academic and accommodation aspirations, getting finance sources, better hygiene and health decisions, gathering scholarship opportunities and applying for them, and engaging in high-quality research and self-development, among others. Despite the availability of various sources available to female students in universities, they still face myriads of challenges that militate against their access to and use of information. The challenges include epileptic power supply, high cost of data, inadequate bandwidth/ poor internet, inadequate finance, inadequate time, poor search strategy, high cost digital infrastructural facilities, cultural problems, and timidity associated with sharing concerns and asking questions, among others. This start-to-end information-seeking process aligns with Ellis' Behavioural Model of

Information Seeking propounded by Ellis (1989) which stipulates that the information seeking process should have eight stages which are the starting, chaining, browsing, differentiating, monitoring, extracting, verifying, and ending.

Recommendations

From the findings of the study, the researcher recommended the following:

1. Alternative power sources should be made available within campus hostels, libraries, classrooms, and the university environment to enhance the students' information seeking of female students in universities.
2. Swift internet access should be made available also in strategic places within universities to boost female students' access to information that could meet their information needs.
3. Training should be organized for the female students to improve their skills, information search strategies, and the need to create time to engage in information seeking activities.
4. University libraries should stock relevant information resources that match the information needs of female students.
5. University libraries should acquire relevant electronic resources and subscribe to databases that match the information needs of female students in universities.

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